

**ENVIRONMENTAL EDUCATION
FY2001 GRANT AWARDS
REGION VI -- AR, LA, NM, OK, TX**

ARKANSAS

Hot Springs School System \$4980

Richmond Edwards, 140 North Border Terrace, Hot Springs, AR 71901

Hot Springs Environmental Project

Students and educators will participate in outdoor field experiences and activities to learn scientific methods for investigation of the various ecological habitats and environmental conditions of the Ouachita Mountains, its streams, vegetation and air quality. Potable water, soil, and vegetation analysis will enable students to make real life observations that will allow them to arrive at future environmental impact predictions. They in turn will educate others in their community regarding life long habits and the effect on their surroundings.

National Center for Appropriate Technology \$10,886

Kathleen Hadley, 3040 Continental Drive, Butte, MT 59702

Streams as Living Laboratories

Schools in Fayetteville, AR, will adopt a portion of one of six urban streams to participate in an investigation each month of water monitoring and sampling techniques. Approximately 170 students are expected to participate in studying watershed ecology and water quality. The lessons learned will be related to human health threats from environmental pollution and community education about watersheds, water quality issues, and how they affect public health. Environmental investigations will be tailored to be age appropriate. The Adopt-A-Watershed program and the EPA Water Patch projects will be the models for this project.

Newton County Resource Council \$4,000

Babs DeChant, P. O. Box 513, Jasper, AR 72641

Ozark Discoveries for Educators

Newton County will conduct two environmental education workshops for 50 sixth through eighth grade educators from 21 school districts. Partnering agencies will select a variety of activities that focus on the natural surroundings of the Ozark Plateau and correlate with the Arkansas Department of Education's Learning Standards and the Guidelines for Excellence. Curriculum guides will come from Project Learning Tree, Project WET, Project WILD and Project Underground. Each workshop will provide educators with tutorial assistance in choosing activities and demonstrate how they apply to classroom curriculum.

University of Arkansas at Pine Bluff \$5,000

John Meister, 1200 North University Drive, Pine Bluff, AR 71611

Soils - The First Line of Environmental Protection

Citizens living in a predominately rural and economically depressed Delta area of Arkansas will be involved in an instructional module on soil types and how important they are in preventing environmental contamination. The module will contain several models with age and culturally-appropriate hands-on activities, along with thought provoking questions. The models will demonstrate water movement through watersheds and the soil before it reaches groundwater. The impact of using different soil types and land use decisions on water quality will be made

visual.

White River Planning & Development District - \$4,950

Van Thomas, 1652 White Drive, Batesville, AR 72503

Solid Waste and Recycling

White River will inform and educate primary and secondary school administrators, teachers, and students about the health aspects of improper waste disposal, and implement school-based recycling programs over a rural ten-county, 47-school district area of north central Arkansas. Teacher workshops, individual school needs assessments, presentations, and technical assistance will be employed to ensure the scope of education is obtained about personal habits and their effect on solid waste disposal.

LOUISIANA

Cenla Pride \$5,000

Bettye Jones, 1014 Third Street, Alexandria, LA 71301

Teacher In Service on Community Water Quality & Conflict Resolution

Two in-service workshops will instruct teachers how to access local water-quality resources and to conduct hands-on activities with their students. Interactive plastic topographical models and enviroscares will be used to demonstrate the results of non-point source pollution, stormwater run off, and the importance of wetlands. Waste In Place curriculum will be utilized which addresses the Louisiana State environmental education benchmarks by grade levels. Kid's Bridge is a conflict resolution program and will prove very beneficial in a neighborhood that is 51% minority.

Louisiana Nature Center \$3348

Bob Marye, P. O. Box 8700610, New Orleans, LA 70187

Environmental Health Month

The Center will hold three programs focusing on health and the environment. Topics will include water quality, household environmental hazards, poisonous plants, venomous animals, pest vectored diseases, ozone depletion, UV radiation and skin cancer. The goal of these programs is to offer information, critical thinking tools and problem solving skills needed to reduce environmental health risks within the direct control of a family and its individual members. Programs are designed for all age groups and will include displays, exhibits, talks by local experts, health screenings, crafts and games.

Louisiana Tech University \$17,500

Glenn Beer, P. O. Box 3163, Lincoln Parish, LA 71272

The IDEA Place Mystery Zone Litter Project

The IDEA Place Mystery Zone Litter Project is specifically designed to provide teachers a useful tool to assist them in presenting math and science concepts in real-world applications requiring students to apply content knowledge. Students will adopt a location to research dumping practices. For a three-month period, students will collect litter in their area on a bi-weekly basis. Using tables, graphs, and other forms of data representation, the collected litter will be studied to determine the content, amount and possible sources. Students will prepare a final report on their findings for presentation to community officials.

Nunez Community College \$5673

Sharon Flanagan, 3710 Paris Road, Chalmette, LA 70043

Resource Efficiency for the Millennium

Resource Efficiency for the Millennium is a series of community-based workshops for homeowners and small businesses. These workshops will be forums for information about increasing energy efficiency, wise water use, tree and lawn plantings and efficient automotive fuels. Four workshops will be held during this project for citizens in Southeast Louisiana. Experts from the local power company, Entergy, the local water company, parish water departments, Louisiana Cooperative Extension Services, and experts in automotive fuel use and alternative fuels will present interactive sessions during the workshops. The anticipated outcome is that local citizens will be better informed thus decreasing pollution and increasing stewardship for the environment. Past workshops have been very successful.

NEW MEXICO

Chihuahuan Desert Nature Park \$4531

Stephanie Bestelmeyer, P. O. Box 891, Las Cruces, New Mexico 88004

Volunteer Educator Hands-On Science Program

Knowledge of and an appreciation for a desert environment will be gained through a hands-on science program designed to train community volunteers to go into classrooms and teach children 10 lessons on natural science and the environment. All lessons feature hands-on learning that allows students to experience the excitement of science while learning the critical thinking skills inherent in the scientific process. The Nature Park will partner with the U.S. Department of Agriculture, New Mexico State University, and the Las Cruces Public Schools. Over a thousand students are expected to benefit from this project in the first year which will feature deserts and water, animal adaptation, plant adaptation, insects and other arthropods, soil erosion, weather, reptiles and amphibians, seed banks, mammals and herbivory.

Cerrillos Hills Park Coalition \$4800

E.J. Patterson, P. O. Box 191, Cerrillos, NM 87010

Spring Enhancement Education Initiative

The **Initiative** is to establish an environmental learning station area in the Cerrillos Hills Historic Park with testing/measuring equipment and interactive tools for K-12. Eight to 10 learning stations will provide skill and content activities that are progressive grade to grade, incorporating a wide range of content areas providing collaboration between county support staff, educational volunteers, teachers and local businesses and organizations. The major trail in the Park has area viewpoints, monitoring stations and restoration work areas that are easily visible without impacting ongoing restoration work. A variety of soil types allow for student application of various restoration efforts, monitoring and testing.

Cuba Independent School District \$4558

Alan Carson, Cuba, New Mexico 87013

Our Water, Our Life

Students will learn the relationships between land and waters in their community through hands on projects provided by the Forest Service on local issues such as water quality, health and sustainability of the Rio Puerco watershed, and future growth and use. After field trips provided by the Forest Service, students will return to the classroom for more hands on activities to reinforce

what they have learned. Teachers will participate in Project WET workshops; exploration kits will educate teachers and increase their awareness of opportunities to incorporate environmental lessons in all aspects of their classrooms. The goal of the school district is to establish environmental education as a part of their overall curriculum.

NM Mesa, Inc. \$20,000

Michael Garcia, 2808 Central, Albuquerque, NM 87106

Summer Ecology Research Program

NM Mesa will provide quality ecology education to teachers and students across the state by providing prospective college students with information on careers related to environmental science, providing hands-on experiences in ecology through field work and scientific research techniques, exposing students to aspects of math, science and technology through web pages, and emphasizing the proper use and maintenance of natural resources. Students will be trained in the use of field equipment such as sweep nets, kick nets, D-nets, bottom dredges, plankton tows, and pitfall traps. For the physical environment, students will be trained in such things as weather instrumentation. Students will be required to maintain a portfolio of their research and produce a research paper at the end of their project.

OKLAHOMA

Oklahoma City Beautiful \$5000

Jo Ann Pearce, 2325 Classen, Oklahoma City, OK 73106

Mother Earth Education

Mother Earth will present a play for all students at thirteen Oklahoma City area elementary schools using the characters of Mother Earth, Larry the Litterbug, and Darlin' Daisy. The play is interactive, teaching about litter, recycling and other objectives, and asks students to promise to help clean up their school and home. Actors who are experienced in children's theatre will be trained by the program director on the script and messages. A twelve-week curriculum for 3rd graders will be used, which includes lesson plans, hand-on experiments, resource lists, and field trips. To wrap up the program, Mother Earth will return to help the students plant a tree on school grounds.

TEXAS

Austin College \$22,494

Peter Schulze, 900 N. Grand Avenue, Sherman, TX 75090

Conservation Benefits of Restoring Blackland Prairie

The goal of this project is to educate citizens about the consequences of different land use options in the Blackland Prairie region of Texas. Demonstration of management strategies will educate students and landowners about small tract land use and its impact on vital natural resources. Austin College students in environmental science classes will work with public school teachers to design teaching modules that focus on prairie restoration. Other environmental science students will be involved in the hands-on process of restoring the native prairie and leading tours for school children and area landowners. Both school children and college students will have opportunities to hone their critical thinking skills and develop career interests in environmental fields.

Houston Independent School District \$10,575

Ada Cooper, 3830 Richmond, Houston, TX 77027

Tracking: Butterflies & Weather

Elementary students will be involved in hands-on, inquiry-based experiments in a butterfly garden and weather station constructed by teachers and parents. Parents will be invited to participate in the experiments with their children and teachers will receive training on the experiments and relevant theory prior to student/parent participation. The environmental studies will be incorporated into science and math classroom studies so students can see the impact of the environment on all aspects of their lives. The garden and weather station will be used year round with scheduled classes while leaving enough free time for spontaneous activities with a tranquil place for classes to relax outside in nature.

Richardson Independent School District \$5000
Kathy Clayton, 400 S. Greenville, Richardson, TX 75081

The Nature of Things - Environmental Garden

An outdoor learning center will be created that features a butterfly garden, pond, and native ecosystem. Through creating, maintaining and studying the ecosystems, students will increase their understanding and respect for the environment and environmental issues they will face in their present and future world. The Center will provide real world opportunities for students to engage in experimental, project-based learning activities while increasing student attainment of state science, math and reading and writing standards. Curriculum will be extended through the Texas Parks and Wildlife. Parents and community members will be invited to participate in interactive student led tours and programs.

Richardson Independent School District \$4140
Eileen Rosenblum, 400 S. Greenville, Richardson, TX 75081

Forestridge Blackland Prairie Garden

The garden will be used to initiate and sustain interest and understanding for the Blackland Prairie through tactile exploration of plant materials and observation of insects and birds that will inhabit the garden. Students will see, hear, smell, and touch some of the tall grasses, perennial plants, and trees seen and used by the people who were native to the area. Students will observe the importance of food and shelter for the smallest inhabitants and they will learn which birds, lizards, and insects are permanent residents and which are migrants. Language development will be supported with meaningful experiences from areas such as geology, geography, horticulture, agriculture, history and social studies.

Richardson Independent School District \$5000
Jack Noteware, 1600 Apollo Road, Richardson, TX 75081

Atrium Project - Organic Education

A chemically free garden will be part of the atrium project featuring native ecosystems. The garden will provide field experience, direct knowledge of native Texas plant life and organic gardening skills for students and parent volunteers with various background experiences. Participants are largely apartment dwellers with 25 countries being represented and the atrium area may be their only exposure to the delicate balance we have with nature. Talks will be given on how to start an organic garden, cost effectiveness and long term planning and maintenance. There are extensive community partners in this project.

Tarleton State University \$4960
Carol Thompson, Box T-0390, Stephenville, TX 76402

Enhancement of Environmental Sciences Education

The university will develop several field-based exercises in a number of existing college courses related to environmental science with the main focus being on an environmental methods course. Students will participate in field exercises which will include groundwater classes, a site assessment class, a water quality analysis course, a techniques class, and a wetlands class. Students will learn correct data collection methods and the many problems that can arise in real-world settings both with collection as well as interpretation. Exercises will be developed on water resource collection techniques and adapted to the skill level for each class and the local environmental setting.

Texas A&M University \$15,000

Kim Jones, College Hall 230, Kingsville, TX 78363

In Pursuit of Campus Ecology

The objective of this project is to develop a hands-on summer internship program to attract community college age students to develop career plans in environmental science and engineering fields. Students in the south Texas area will be recruited through community colleges and high schools to attend a summer program at the university to introduce them to environmental careers through in-class instruction, lab and field work, discussion workshops and exposure to environmental problems and practices. It is anticipated the success of this program will build a strong, long lasting partnership between school districts and colleges in the area which will promote environmental engineering and environmental science as a discipline vitally concerned with developing practical and environmentally beneficial solutions to difficult environmental problems. The complex environmental issues facing south Texas and the Rio Grande Valley are becoming more critical. It is anticipated recruiting students from the areas with the environmental problems will promote environmental career development and encourage student learning in leadership and innovation in natural systems solution technologies to which they may not otherwise be exposed.

Texas State Technical College \$5,000

Sal Garcia, 307 N. Breckenridge, Breckenridge, TX 76424

Teacher Training on Water Quality Monitoring and Sampling Techniques

Science teachers at the middle school and high schools levels will attend a two-day workshop on water quality monitoring and sampling techniques. It is strongly believed the public does not have a basic understanding of what is meant by the term water quality nor what water pollution is and , in particular, what non-point sources pollution is. If teachers are adequately trained, they can return to the classroom and transfer this knowledge to their students. The wider audience will help disseminate public awareness and knowledge about water quality, watersheds, and how pollution affects water quality.

Urban Harvest \$7,500

Elizabeth Proctor, P. O. Box 980460, Houston, TX 77098

Environmental Education Reform Models for Outdoor Classrooms

Urban Harvest will use environmental models that address outdoor classrooms to train teachers, administrators and parents in Houston and 26 surrounding schools districts. Participants will be instructed through workshops how to construct a sustainable outdoor garden/classroom. The popularity of outdoor gardens in the Houston area has grown but so has the failure rate. With proper instruction and curriculum, teachers and students can construct sustainable nature areas that exhibit behaviors that are supportive of a healthy environment. Outdoor classrooms provide a concrete

setting for exploration and an opportunity to have real impact on children's understandings and skills related to the environment.